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Just-in-time Information through Mobile Connections

86% of smartphone owners used their phone in the past month to make real-time queries to help them meet friends, solve problems, or settle arguments

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<http://pewinternet.org/Reports/2012/Just-in-time.aspx>

Summary of Findings

Some 70% of all cell phone owners and 86% of smartphone owners have used their phones in the previous 30 days to perform at least one of the following activities:

- **Coordinate a meeting or get-together** -- 41% of cell phone owners have done this in the past 30 days.
- **Solve an unexpected problem that they or someone else had encountered** -- 35% have used their phones to do this in the past 30 days.
- **Decide whether to visit a business, such as a restaurant** -- 30% have used their phone to do this in the past 30 days.
- **Find information to help settle an argument they were having** -- 27% have used their phone to get information for that reason in the past 30 days.
- **Look up a score of a sporting event** -- 23% have used their phone to do that in the past 30 days.
- **Get up-to-the-minute traffic or public transit information to find the fastest way to get somewhere** -- 20% have used their phone to get that kind of information in the past 30 days.
- **Get help in an emergency situation** -- 19% have used their phone to do that in the past 30 days.

Overall, these “just-in-time” cell users—defined as anyone who has done one or more of the above activities using their phone in the preceding 30 days—amount to 62% of the entire adult population.

Younger cell phone users are more likely than older users to have performed most of these activities. In all, 88% of the cell phone owners ages 18-29 had performed one of these activities in the past 30 days, compared with 76% of the cell owners ages 30-49, 57% of the cell owners ages 50-64, and 46% of the cell owners age 65 and older.

There are also differences between men and women, parents of minor children and non-parents, and among whites, African-Americans, and Hispanics on some of these activities. For instance:

- Men who own cells are more likely than women cell owners to have used their phones in the past 30 days to look up information that settles an argument or disagreement: 31% of males who own cells have done this, compared with 22% of women cell owners.
- White cell phone owners are more likely than minorities to have used their phones to coordinate a gathering in the past 30 days. Some 43% of white cell owners have done this, compared with 33% of African-Americans who own cells and 34% of Hispanic cell owners.
- African-American cell owners are more likely than whites to have used their phones in the past month to get up-to-the-minute traffic or public transit information: 31% vs. 16%.

These just-in-time information searches take place in the wider context of people using their smartphones to get needed information right away. In this survey, we also asked about using cell phones to **get turn-by-turn navigation or directions while driving.** Some 65% of smartphone owners say they have done that, with 15% doing so on a typical day.

These findings come from a nationally representative survey by the Pew Internet Project conducted between March 15 and April 3, 2012 among 2,254 adults age 18 and older. The margin of error on the full sample is 2 percentage points. Some 1,954 cell owners were part of the sample. The margin of error of questions asked of them is 3 percentage points.

Main Report

The rapid adoption of cell phones and, especially, the spread of internet-connected smartphones are changing people's communications with others and their relationships with information. Users' ability to access data immediately through apps and web browsers and through contact with their social networks is creating a new culture of real-time information seekers and problem solvers.

The Pew Research Center's Internet & American Life Project has documented some of the ways that people perform just-in-time services with their cell phones. Earlier this year, we reported on the 9% of adults who sometimes make spur-of-the-moment text donations to charities¹. We have also examined the use of cell phones inside stores during the holiday season, as users consulted friends about purchases and looked online for price comparisons and reviews about things they were thinking of buying.²

More recently, a new nationally representative survey by the Pew Internet Project has found additional evidence of this just-in-time phenomenon. The survey was conducted between March 15 and April 3, 2012 among 2,254 adults age 18 and older and it found that 88% of adults are cell phone owners and that 46% are smartphone owners. In the section of the survey exploring the just-in-time behaviors of the cell-using population, respondents were asked if they had used their phone to access different types of time-sensitive information in the 30 days preceding the survey. Their answers disclosed that:

- 41% of cell phone owners used their phone in the previous 30 days to **coordinate a meeting or get-together**.
- 35% used their phone to **solve an unexpected problem** they or someone else had encountered in the previous 30 days.
- 30% used their phone in the previous 30 days **to decide whether to visit a business, such as a restaurant**
- 27% used their phone in the previous 30 days to get information to help **settle an argument** they were having.
- 23% used their phone in the previous 30 days to **look up a score of a sporting event**.
- 20% used their phone in the previous 30 days for **up-to-the-minute traffic or public transit information to find the fastest way to get somewhere**.
- 19% used their phone to **get help in an emergency situation**.

In all, 70% of cell phone owners – representing 62% of the entire adult population – have used their phone in the previous month to do at least one of these real-time searches.

¹ "Real Time Charitable Giving" (Pew Internet: January 12, 2012). Available at: <http://www.pewinternet.org/Reports/2012/MobileGiving.aspx>

² "The rise of in-store mobile commerce" (Pew Internet: January 30, 2012). Available at: <http://www.pewinternet.org/Reports/2012/In-store-mobile-commerce.aspx>

The demographics of just-in-time phone users

The young, the relatively well-educated and well-off, and parents of minor children are more likely than other kinds of cell owners to have used their cell phones recently for the just-in-time activities we measured in this survey.

A wide range of cell owners use their phones for just-in-time information

70% of adult cell owners have performed at least one of seven different just-in-time searches Pew Internet measured in a survey. This is the % of cell owners in each group who have done at least one such search in the preceding 30 days.

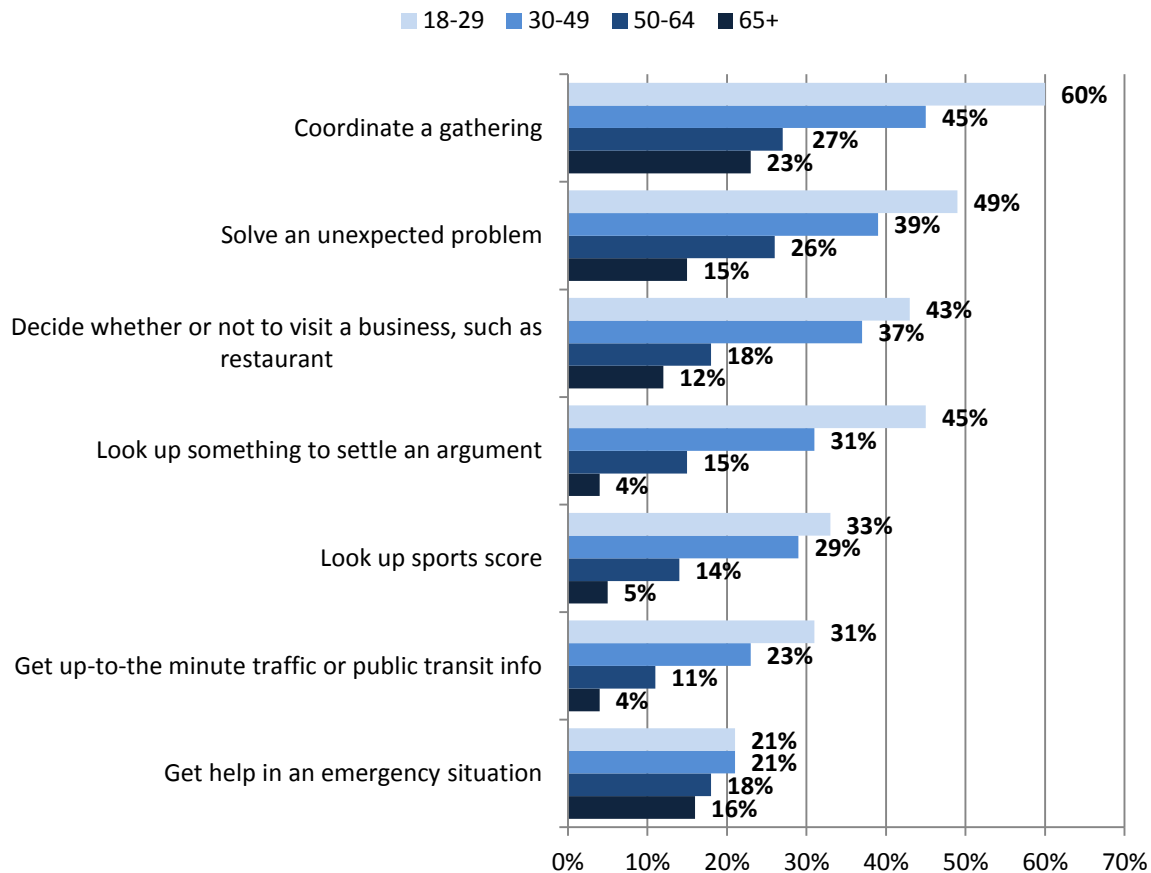
	% who have done at least one of several just-in-time searches in past 30 days
All adult cell owners (age 18+)	70%
Men	73
Women	67
Race/ethnicity	
White, Non-Hispanic	70
Black, Non-Hispanic	68
Hispanic (English- and Spanish-speaking)	73
Age	
18-29	88
30-49	76
50-64	57
65+	46
Household income	
Less than \$30,000/yr	63
\$30,000-\$49,999	67
\$50,000-\$74,999	76
\$75,000+	81
Educational attainment	
No high school diploma	64
High school grad	64
Some College	72
College +	78
Parental status	
Parent of minor child	75
Non-parent	68

Source: Pew Research Center's Internet & American Life Mobile Survey, March 15-April 3, 2012. N for entire survey = 2,254 respondents age 18 older and N=1,954 for cell owners. Interviews were conducted in English and Spanish and on landline and cells.

Younger cell phone users are considerably more likely than older users to have done these kinds of searches. Overall, 88% of cell phone owners ages 18-29 had performed one or more of these activities in the past 30 days, compared with 76% of cell owners ages 30-49, 57% of cell owners ages 50-64, and 46% of the owners age 65 and older.

Young adults are more likely to use their cells for real-time information than their elders

% of cell owners in each age group who have performed these real-time activities in the previous 30 days

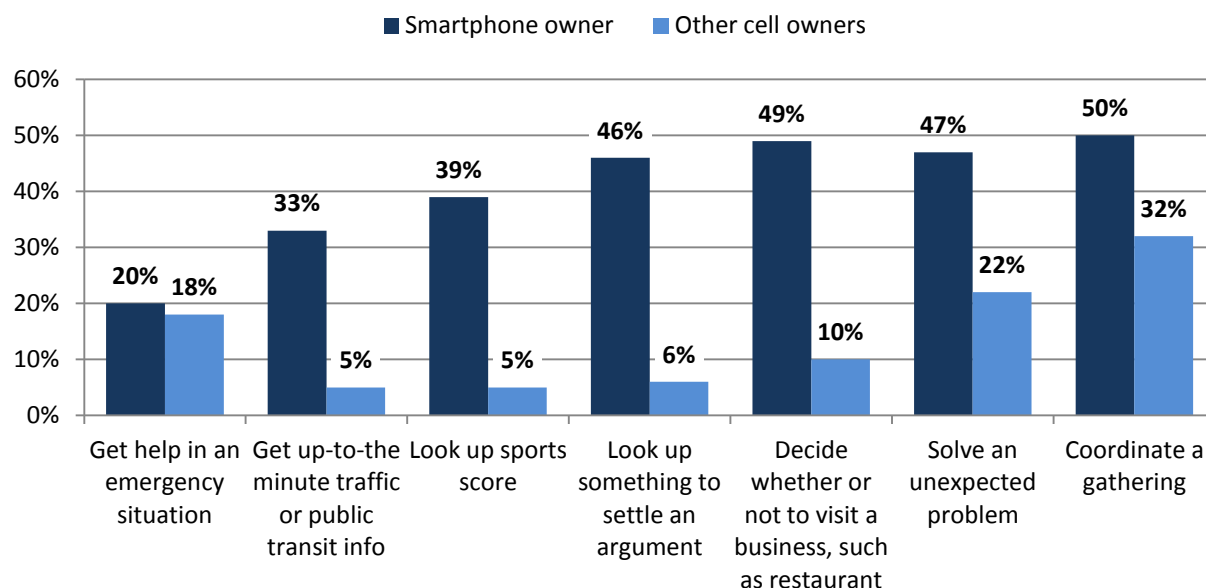


Source: Pew Research Center's Internet & American Life Mobile Survey, March 15-April 3, 2012. N for entire survey = 2,254 respondents age 18 older and N=1,954 for cell owners. Interviews were conducted in English and Spanish and on landline and cells.

Some 86% of smartphone owners have used their phones for at least one of these purposes, a figure that is considerably higher than among other cell users —52% of non-smartphone owners have used their phone for some sort of just-in-time searching in the preceding 30 days. These smartphone owners are also considerably more likely than other cell users to have done each of the individual activities we measured in our survey—the only exception is getting help in an emergency situation, as both smartphone owners and other types of cell owners were equally likely to have used their phone recently for this purpose.

Smartphone owners get real-time information

% of cell owners in each group who have performed these real-time activities in the previous 30 days



Source: Pew Research Center's Internet & American Life Mobile Survey, March 15-April 3, 2012. N for entire survey = 2,254 respondents age 18 older; N=1,954 for cell owners; N=904 for smartphone owners; N=1,050 for other cell phone owners. Interviews were conducted in English and Spanish and on landline and cells.

Other demographic differences appear in a least some of these just-in-time searches. For instance:

- Men who own cells are more likely than women cell owners to have used their phones in the past 30 days to look for information that settles an argument or disagreement: 31% of males who own cells have done this, compared with 22% of women cell owners. In addition, male cell owners (31%) are more likely than females (14%) to have used their phones to check on sports scores.

Overall, men who own cells are more likely than women to have used their phone in the past month for at least one of these purposes: 73% of men who own cells have done at least one of these things, compared with 67% of women.

- Parents of minor children are more likely than non-parents to have done several of these just-in-time searches in the past 30 days: Compared with cell owners with no minor children living at home, parents who own cell phones are more likely to have used their phones to solve an unexpected problem (40% vs. 33%); to have used their phones to decide whether to visit a local business (38% vs. 27%); to have looked up something to help settle an argument (32% vs. 24%); and to have looked up a sports score (28% vs. 20%).
- White cell phone owners are more likely than minorities to have used their phones to coordinate a gathering in the past 30 days. Some 43% of white cell owners have done this, compared with 33% of African-Americans who own cells and 34% of Hispanic cell owners. On

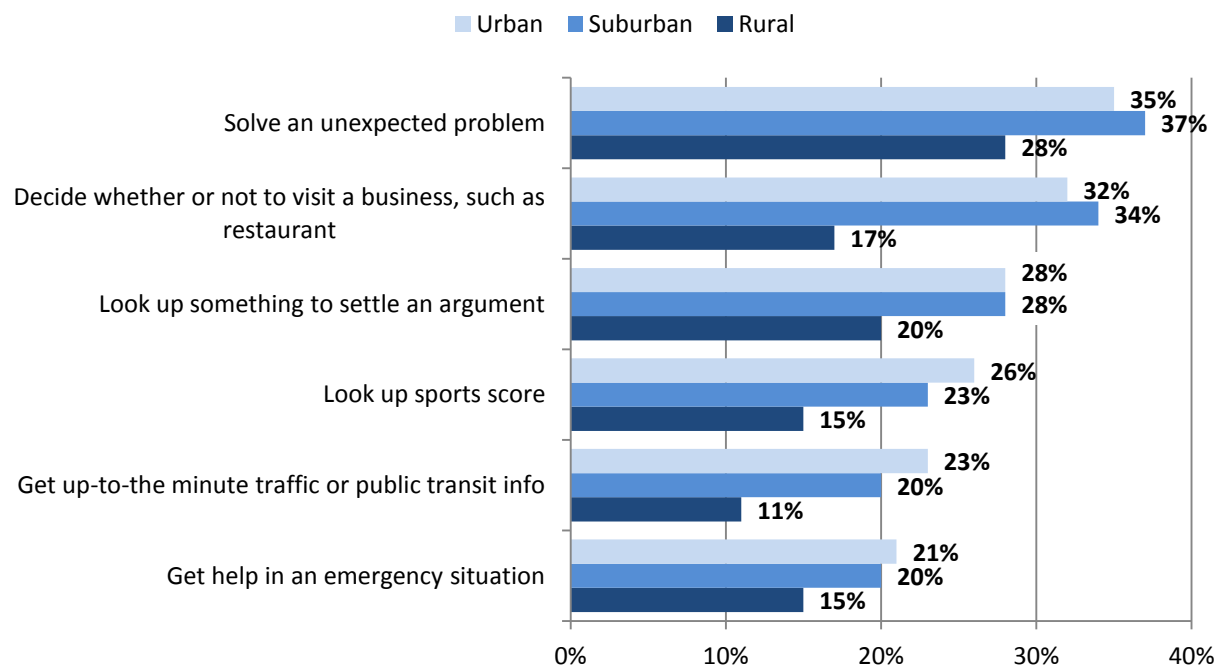
the other hand, African-American cell owners are more likely than whites to have used their phones in the past month to get up-to-the-minute traffic or public transit information: 31% vs. 16%.

- People living in higher income households are more likely than the less well-off to have used their cell phones in the past month for these purposes. And people with higher levels of education are often more likely than those with lesser levels of education to have used their cells for these reasons.

In addition, rural cell users are less likely than suburban and urban users to have done some of the just-in-time searches in the past month.

Rural residents are less likely than others to use their cells for just-in-time information

% of cell owners in each group who have performed these real-time activities in the previous 30 days



Source: Pew Research Center's Internet & American Life Mobile Survey, March 15-April 3, 2012. N for entire survey = 2,254 respondents age 18 older; N=1,954 for cell owners; N=904 for smartphone owners; N=1,050 for other cell phone owners. Interviews were conducted in English and Spanish and on landline and cells.

The just-in-time information searches discussed above are just one way in which cell owners are using their phones to access detailed information and advanced applications through their mobile devices. We asked owners of cell phones who get email, have apps, or access the internet on their phones several questions about their general use of their phones. Some 65% of smartphone owners say they have used their phone to **get turn-by-turn navigation or directions while driving**, with 15% doing so on a typical day.

About Pew Internet

The Pew Research Center's Internet & American Life Project is an initiative of the Pew Research Center, a nonprofit "fact tank" that provides information on the issues, attitudes, and trends shaping America and the world. The Pew Internet Project explores the impact of the internet on children, families, communities, the work place, schools, health care and civic/political life. The Project is nonpartisan and takes no position on policy issues. Support for the Project is provided by The Pew Charitable Trusts. More information is available at www.pewinternet.org

Survey questions

Spring Tracking Survey 2012

Final Topline

04/10/2012

Data for March 15–April 3, 2012

Princeton Survey Research Associates International for
the Pew Research Center's Internet & American Life Project

Sample: n=2,254 national adults, age 18 and older, including 903 cell phone interviews
Interviewing dates: 03.15.2012 – 04.03.2012

Margin of error is plus or minus 2 percentage points for results based on Total [n=2,254]
Margin of error is plus or minus 3 percentage points for results based on internet users [n=1,803]
Margin of error is plus or minus 3 percentage points for results based on cell phone owners [n=1,954]

Margin of error is plus or minus 3 percentage points for results based on cell phone owners who text message
[n=1,395]

Margin of error is plus or minus 4 percentage points for results based on those who use the internet or email on
their cell phone or download apps to their cell phone [n=953]
Margin of error is plus or minus 4 percentage points for results based on those who use the internet or email on
their cell phone [n=929]
Margin of error is plus or minus 4 percentage points for results based on those who download apps to their cell
phone [n=714]

Q10 Please tell me if you happen to have each of the following items, or not. Do you have...
[INSERT ITEMS IN ORDER]?

A cell phone or a Blackberry or iPhone or
other device that is also a cell phone³

³ Question was asked of landline sample only. Results shown here have been recalculated to include cell phone sample in the "Yes" percentage. In past polls, question was sometimes asked as an independent question and sometimes as an item in a series. In January 2010, question wording was "Do you have...a cell phone or a Blackberry or iPhone or other handheld device that is also a cell phone." In Dec 2008, Nov 2008, May 2008, January 2005 and Nov 23-30 2004, question wording was "Do you happen to have a cell phone?" In August 2008, July 2008 and January 2008, question wording was "Do you have a cell phone, or a Blackberry or other device that

Current	88	12	*	*
February 2012	88	12	0	*
December 2011	87	13	0	*
August 2011	84	15	*	*
May 2011	83	17	*	0
January 2011	84	16	*	*
December 2010	81	19	*	*
November 2010	82	18	0	*
September 2010	85	15	*	*
May 2010	82	18	*	0
January 2010	80	20	0	*
December 2009	83	17	0	*
September 2009	84	15	*	*
April 2009	85	15	*	*
Dec 2008	84	16	*	*
July 2008	82	18	*	--
May 2008	78	22	*	0
April 2008	78	22	*	--
January 2008	77	22	*	--
Dec 2007	75	25	*	--
Sept 2007	78	22	*	--
April 2006	73	27	*	--
January 2005	66	34	*	--
November 23-30, 2004	65	35	*	--

Q14 Some cell phones are called “smartphones” because of certain features they have. Is your cell phone a smartphone or not, or are you not sure?

Based on cell phone owners

	current		Feb 2012	May 2011
%	46	Yes, is a smartphone	45	33
	44	No, is not a smartphone	46	53
	10	Not sure	8	14
	*	Refused	*	*
	[n=1,954]		[n=1,961]	[n=1,914]

Q15 Which of the following best describes the type of cell phone you have? Is it an iPhone, a Blackberry, an Android phone, a Windows phone, or something else?⁴

Based on cell phone owners

	current		FEB 2012	Dec 2011	May 2011
%	20	iPhone	19	15	10
	5	Blackberry	6	8	10
	22	Android	20	20	15

is also a cell phone?” In April 2008, Dec 2007, Sept 2007 and April 2006, question wording was “Do you have a cell phone?” Beginning December 2007, question/item was not asked of the cell phone sample, but results shown here reflect Total combined Landline and cell phone sample.

⁴ Prior to April 2012, question wording was slightly different: “Which of the following best describes the type of cell phone you have? Is it an iPhone, a Blackberry, an Android phone, a Windows phone, a Palm, or something else?”

2	Windows phone	2	2	2
n/a	Palm	1	2	2
16	Basic cell phone – unspecified (VOL.)	16	18	8
7	Samsung – unspecified (VOL.)	8	7	7
5	LG – unspecified (VOL.)	5	4	5
4	Flip phone – unspecified (VOL.)	4	6	3
2	Tracfone (VOL.)	3	2	2
3	Motorola – unspecified (VOL.)	2	2	3
2	Nokia – unspecified (VOL.)	1	2	2
1	Pantech – unspecified (VOL.)	1	1	1
7	Something else (SPECIFY)	6	7	16
5	Don't know	4	4	13
*	Refused	*	*	1
[n=1,954]		[n=1,961]	[n=2,771]	[n=1,914]

Q23 Thinking of some of the things you have done recently with your cell phone... In the last 30 days, have you used your cell phone to [INSERT ITEMS; RANDOMIZE]?

Based on cell phone owners [N=1,954]

	YES	NO	DON'T KNOW	REFUSED
a. Look something up to help settle an argument or disagreement you were having	27	73	*	*
b. Coordinate a gathering, meeting or get-together	41	59	0	*
c. Solve an unexpected problem for yourself or someone else	35	64	1	*
d. Get help in an emergency situation	19	80	*	*
e. Look up the score of a sporting event	23	77	0	0
f. Get up-to-the minute traffic or public transit information so you could find the fastest way to get somewhere	20	80	0	*
g. Decide whether or not to visit a particular business, such as a restaurant	30	70	*	0

Methodology

This report is based on the findings of a survey on Americans' use of the internet. The results in this report are based on data from telephone interviews conducted by Princeton Survey Research Associates International from March 15 to April 3, 2012, among a sample of 2,254 adults, age 18 and older. Telephone interviews were conducted in English and Spanish by landline (1,351) and cell phone (903, including 410 without a landline phone). For results based on the total sample, one can say with 95% confidence that the error attributable to sampling is plus or minus 2.4 percentage points. For

results based on internet users⁵ (n=1,803), the margin of sampling error is plus or minus 2.7 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls. A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. Numbers for the landline sample were selected with probabilities in proportion to their share of listed telephone households from active blocks (area code + exchange + two-digit block number) that contained three or more residential directory listings. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

New sample was released daily and was kept in the field for at least five days. The sample was released in replicates, which are representative subsamples of the larger population. This ensures that complete call procedures were followed for the entire sample. At least 7 attempts were made to complete an interview at a sampled telephone number. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Each number received at least one daytime call in an attempt to find someone available. For the landline sample, interviewers asked to speak with the youngest adult male or female currently at home based on a random rotation. If no male/female was available, interviewers asked to speak with the youngest adult of the other gender. For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. Cellular sample respondents were offered a post-paid cash incentive for their participation. All interviews completed on any given day were considered to be the final sample for that day.

Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. A two-stage weighting procedure was used to weight this dual-frame sample. The first-stage corrected for different probabilities of selection associated with the number of adults in each household and each respondent's telephone usage patterns.⁶ This weighting also adjusts for the overlapping landline and cell sample frames and the relative sizes of each frame and each sample.

The second stage of weighting balances sample demographics to population parameters. The sample is balanced to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The Hispanic origin was split out based on nativity; U.S. born and non-U.S. born. The White, non-Hispanic subgroup is also balanced on age, education and region. The basic weighting parameters came from a special analysis of the Census Bureau's 2011 Annual Social and Economic Supplement (ASEC) that included all households in the United States. The population density parameter was derived from Census 2000 data. The cell phone usage parameter came from an analysis of the July-December 2010 National Health Interview Survey.⁷

Following is the full disposition of all sampled telephone numbers:

⁵ Internet user definition includes those who access the internet on their cell phones or other mobile handheld device.

⁶ i.e., whether respondents have only a landline telephone, only a cell phone, or both kinds of telephone.

⁷ Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July-December, 2010. National Center for Health Statistics. June 2011.

Table 2: Sample Disposition

Landline	Cell	
33,738	22,143	Total Numbers Dialed
1,502	332	Non-residential
1,491	45	Computer/Fax
8	----	Cell phone
15,401	8,237	Other not working
2,746	404	Additional projected not working
12,590	13,126	Working numbers
37.3%	59.3%	Working Rate
915	135	No Answer / Busy
3,472	4,465	Voice Mail
66	5	Other Non-Contact
8,137	8,521	Contacted numbers
64.6%	64.9%	Contact Rate
523	1,382	Callback
6,161	5,654	Refusal
1,453	1,485	Cooperating numbers
17.9%	17.4%	Cooperation Rate
52	43	Language Barrier
----	498	Child's cell phone
1,401	944	Eligible numbers
96.4%	63.6%	Eligibility Rate
50	41	Break-off
1,351	903	Completes
96.4%	95.7%	Completion Rate
11.1%	10.8%	Response Rate

The disposition reports all of the sampled telephone numbers ever dialed from the original telephone number samples. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:

- Contact rate – the proportion of working numbers where a request for interview was made
- Cooperation rate – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused
- Completion rate – the proportion of initially cooperating and eligible interviews that were completed

Thus the response rate for the landline sample was 11 percent. The response rate for the cellular sample was 11 percent.